

CLAIMS

Having thus described the invention, what we desire to claim and secure by letters patent is:

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A reinforced composite tension and compression reacting strut which is highly efficient in reacting both compressive and tension loads imposed on the strut as a result of connection to a load bearing structure, said strut comprising:

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- a) an elongate body formed primarily of a reinforced plastic composite material;
- b) an end fitting adapted for securement to an end of said elongate body and which may also be adapted for securement to a structure; and
- c) a strap extending along opposite surface of said body and also extending about a portion of the fitting at an end of said body and holding said fittings to said body to thereby reinforce the fitting against compressive and tension loads.

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The reinforced composite tension and compression reacting strut of Claim 1 further characterized in that said strut further comprises:

5 a pair of fittings with one of each of the opposite ends of said body and where the strap extends about both of said fittings and holds such fittings to the body.

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10 The reinforced composite tension and compression reacting strut of Claim 2 further characterized in that:
an adhesive also initially secures said fittings to said body.

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The reinforced composite tension and compression reacting strut of Claim 2 further characterized in that said strap is comprised of resin impregnated filament reinforcing composite material.

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The reinforced composite tension and compression reacting strut of Claim 1 further characterized in that said fitting has a recessed area allowing said strap to be retained therein.

The reinforced composite tension and compression reacting strut of Claim 4 further characterized in that said body of said strut further comprises:

5 elongate grooves extending along said opposite surface to
receive straps extending along the surface of said body.

10 The reinforced composite tension and compression reacting
strut of Claim 1 further characterized in that said body has a
generally rectangular cross-sectional shape and edges of said body
are rounded.

15 The reinforced composite tension and compression reacting
strut of Claim 7 further characterized in that said body has a
hollow core.

The reinforced composite tension and compression reacting strut of Claim 1 further characterized in that said strut comprises:

5 additional filament reinforcing material wound around about said end fitting and said body to make the end fitting integral with the body.

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A reinforced composite tension and compression reacting strut which is highly efficient in reacting both compressive and tension loads imposed on the strut as a result of connection to a load bearing structure, said strut comprising:

- a) a hollow elongate body formed primarily of a reinforced plastic composite material for carrying compressive load;
- b) an end fitting adapted for securement to an end of said elongate body and which may also be adapted for securement to a structure;
- c) securement means for holding said fitting at an open end of said body; and
- d) a filament reinforced strap extending along opposite surfaces of said body to carry tensional loading and also holding said fittings to said body.

The reinforced composite tension and compression reacting strut of Claim 10 further characterized in that said strut further comprises:

a pair of fittings with one of each of the opposite ends of said body and the strap extends to each of said fittings and aids in holding such fittings to the body.

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The reinforced composite tension and compression reacting strut of Claim 10 further characterized in that:

securement means comprises adhesive for also initially securing said fittings to said body.

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The reinforced composite tension and compression reacting strut of Claim 10 further characterized in that said fitting has a recessed area allowing said strap to be retained therein.

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The reinforced composite tension and compression reacting strut of Claim 10 further characterized in that said body has a generally rectangular cross-sectional shape and edges of said body are rounded.

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The reinforced composite tension and compression reacting strut of Claim 10 further characterized in that said strut comprises:

5 additional filament reinforcing material around about said end fitting and said body to make the end fitting integral with the body.

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A method of making a reinforced composite tension and compression reacting strut which is highly efficient in reacting both compressive and tension loads imposed on the strut, said method of making the strut comprising:

- a) forming an elongate hollow body primarily from a reinforced plastic composite material to carry compressive loads;
- b) securing an end fitting adapted to an end of said elongate body; and
- c) wrapping a strap along opposite surfaces of said body and also extending about a portion of the fitting at an end of said body and holding said fitting to said body to thereby reinforce the fitting in the end of the body.

The method of making the reinforced composite tension and compression reacting strut of Claim 16 further characterized in that said method further comprises:

- a) applying an adhesive to at least one of said fitting or body;
- b) inserting a portion of said fitting into an open end of said body; and

c) allowing said adhesive to cure.

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5 The method of making the reinforced composite tension and
compression reacting strut of Claim 16 further characterized in
that said method comprises:

filament winding the reinforcing strap about said body
and said fitting.

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The method of making the reinforced composite tension and
compression reacting strut of Claim 16 further characterized in
that said method comprises:

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wrapping a reinforcing strap through a recessed area of
said fitting to tightly hold said fitting to said body.

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20 The method of making a reinforced composite tension and
compression reacting strut of Claim 16 wherein the method of making
the strut comprises:

securing end fittings to each of the opposite ends
of said elongate body; and

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wrapping a strap along opposite surfaces of said body and also extending about a portion of each fitting.

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The method of making the reinforced composite tension and compression reacting strut of Claim 20 further characterized in that said method further comprises:

- a) applying an adhesive to at least one of said fitting or body at each of the opposite ends;
- b) inserting a portion of said fitting at each end into an open end of said body; and
- c) allowing said adhesive to cure.

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The method of making the reinforced composite tension and compression reacting strut of Claim 20 further characterized in that said method comprises:

wrapping additional filament reinforcing material around about said end fitting and said body to make the end fitting integral with the body.

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